GOVERNMENT OF INDIA
AGRICULTURE
LOK SABHA

STARRED QUESTION NO:433
ANSWERED ON:21.04.2003
PRESENCE OF METALS IN VEGETABLES
CHARAN DAS MAHANT;KAMAL NATH

Will the Minister of AGRICULTURE be pleased to state:

(a) whether the Government are aware that highly contaminated vegetables are available in the markets in Delhi;

(b) if so, the facts and details thereof;

(c) whether the use of such contaminated vegetables are posing serious health hazards;

(d) if so, whether a study conducted by the experts from the Imperial College of London in coordination with Indian Agricultural Research Institute (IARI) has revealed the presence of high percentage of lead, zinc and other metals in the vegetables grown in and around the city;

(e) if so, the details thereof and the reasons therefor; and

(f) the strategy formulated by the Government to ensure availability of safe vegetables in the markets?

Answer

THE MINISTER OF AGRICULTURE (SHRI AJIT SINGH)

(a) to (f): A Statement is laid on the Table of the House.

STATEMENT IN RESPECT OF PARTS (a) TO (f) OF LOK SABHA STARRED QUESTION NO. 433 TO BE ANSWERED ON APRIL, 2003 REGARDING `PRESENCE OF METALS IN VEGETABLES`.

(a) Yes, Sir. A report to this effect has appeared in the newspapers recently.

(b) The monitoring study carried out by the All India Coordinated Research Project on Pesticide Residue has recorded that out of about 4100 samples of 31 vegetables, 55 samples were contaminated with pesticide residues, but only 9 % of the samples exceeded the maximum residue limit. The pesticide residue of the following insecticide HCH, DDT, Endosulfan, Deltamethrin, Chlorpyriphos, Melathion, Cypermethrin, Fenvelunrate etc. have been recorded.

Some samples of vegetables collected from Peri-Urban areas around Delhi have shown presence of lead, zinc and cadmium above the safe limits. This is found especially from those areas where crops are irrigated with sewage water or industrial effluents. Areas with high vehicular exhaust pollution such as market places also show heavy metal contamination.

(c) Indian Council of Agricultural Research has not conducted specific studies on the adverse effect of contaminants on human health, however, it is the common experience that continuous consumption of unwashed vegetables from such places may cause health related problems in human beings.

(d) Yes, the study conduced by Indian Agricultural Research Institute and Imperial College of London has shown the presence of lead, zinc and cadmium in some samples of vegetables grown in and around Delhi

(e) In this study, several vegetable samples of palak, okra and cauliflower were collected from the peri-urban areas of Delhi viz. Yamunapusta, Okhla, Ballabhgarh, Najafgarh and Alipur and their nearby markets during 2001 and 2002. These were analyzed for the presence of heavy metals. The study has shown that in some of the samples collected from Yamunapusta, Najafgarh and Okhla, the level of contamination with zinc, lead and cadmium was higher than the prescribed tolerance limit. None of the samples had copper above the permissible limit.

The main reasons for heavy metals accumulation in vegetables are irrigation with sewage water and industrial effluents. Aerial deposition from thermal plants and vehicular exhaust are other major sources of heavy metals.

(f) This is only a preliminary study with very limited samples from peri-Urban areas of Delhl and can not be generalized for larger areas. More detailed studies are needed. However, the accumulation of heavy Metals can be reduced by controlling pollution load in Irrigated water, by shifting to non leafy crops in peri-urban agriculture.